

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P204967	FOR FURTHER ACTION	See item 4 below
International application No. PCT/CH2005/000069	International filing date (<i>day/month/year</i>) 09 February 2005 (09.02.2005)	Priority date (<i>day/month/year</i>) 11 February 2004 (11.02.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant TECHNOMEDICA AG		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 10 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 04 October 2006 (04.10.2006)
Facsimile No. +41 22 338 82 70	Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Yolaine Cussac</div> e-mail: pt11@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

TRANSLATION

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference
P204967

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/CH2005/000069

International filing date (day/month/year)
09.02.2005

Priority date (day/month/year)
11.02.2004

International Patent Classification (IPC) or both national classification and IPC
G01J3/14, G02B5/04

Applicant
TECHNOMEDICA AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	3-18, 22-25	YES
	Claims	1, 2, 19-21	NO
Inventive step (IS)	Claims		YES
	Claims	3-12, 16-18, 22, 23	NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims		NO

2. Citations and explanations:

Prior art

Reference is made to the following documents:

D1: US3432241
D2: US3720469
D3: US3254556
D4: JP11313334
D5: US3578980

1-Objections owing to lack of novelty (PCT Article 33(2))

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 2 and 19 to 21 is not novel within the meaning of PCT Article 33(2). The reasons are as follows:

1-1. Independent claims 1, 19

Claim 1

D1 discloses a filter unit for filtering light comprising a first mask (figure 1: element G') and a prism unit (P),

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a first mask having a plurality of first openings (exemplary embodiment for the masks: figure 5 and column 4, lines 50-69), a second mask (G'') with second openings (both masks are identical: column 3, lines 43-47) being provided, the prism unit being arranged between the two masks (figure 1), the first and second masks having corresponding first and second openings (identical masks) and forming an opening pair, and one prism being provided in the prism unit (Element P) for at least one opening pair.

Therefore, all the features described in claim 1 are known from D1.

Claim 19

D4 discloses a device for capturing images (see the title), a first mask (figure 3, element 7) with first openings (elements 8), a prism unit (prisms 9) and a photosensitive layer (11) being provided, the prism unit being arranged between the first mask and the photosensitive layer, and the photosensitive layer comprising at least three regions in which the incident light can be measured, and the light incident on the at least three regions originating from the same opening (in figure 3 the three light components red, green and blue are represented by three arrows coming from the same prism, and are captured by corresponding detectors; also see paragraphs 19 and 20).

Therefore, all the features described in claim 19 are known from D4.

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1-2. Dependent claims 2,20,21

Claim 2: The subject matter described is known from D1
(column 3, lines 43-52).

Claim 20: known from D4 (paragraph 20):

Claim 21: known from D4 (figure 3).

**2-Objections owing to lack of inventive step (PCT Article
33(3))**

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1 to 12, 16 to 18, 22 and 23 does not involve an inventive step within the meaning of PCT Article 33(3). The reasons are as follows:

2-1. Independent claim 1

Regarding document D2

D2 discloses a filter unit for filtering light comprising a first mask (figure 1, element 6; column 3, line 35) and a dispersion unit (element 38, column 3, line 37), the first mask having a plurality of first openings (figure 2 and column 3, lines 43-62), a second mask (figure 1: element 14) with second openings (column 4, lines 4-5) being provided, the dispersion unit being arranged between the two masks (see figure 1), the first and second masks having corresponding first and second openings and forming an opening pair (at least if the second mask is identical to the first mask, they form opening pairs).

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citations and explanations supporting such statement

The subject matter of claim 1 therefore differs from the known device by virtue of the fact that the dispersion unit is a prism unit, and one prism is provided in the prism unit for at least one opening pair.

D2 mentions a grating as a concrete embodiment of a dispersion unit (column 3, line 37). The problem of choosing a dispersion unit can be solved on the basis of the general knowledge of a person skilled in the art: prisms are used just like gratings for dispersing light (see e.g. D3: figure 18). A dispersion element based on prisms may contain either a single prism, which decomposes the light over the entire beam of rays (for at least one opening pair), or a plurality of smaller prisms, as illustrated in D3 (figures 2-5, 18), which split the beam of rays into corresponding smaller parts prior to the spectral decomposition.

Therefore, the subject matter of claim 1 cannot be regarded as inventive.

Regarding document D4

D4 discloses a filter unit for filtering light comprising a first mask (figure 3, element 7) and a prism unit (prisms 9), the first mask (7) having a plurality of first openings (8).

Therefore, the subject matter of claim 1 differs from the known device by virtue of the fact that a second mask with second openings is provided, the prism unit is arranged between the two masks, the first and second

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citations and explanations supporting such statement

masks have corresponding first and second openings and form an opening pair, and one prism being provided in the prism unit for at least one opening pair.

The problem addressed by the present invention can therefore be considered that of capturing only a desired and selectable spectral bandwidth of the dispersed light for each prism. This is achieved by providing a second mask with openings which correspond to the openings of the first mask.

In D4, the captured light components are in each case determined by the positioning of the detectors (11). In order to capture a specific spectral bandwidth of the dispersed light, a person skilled in the art would consider using only one detector, having the desired bandwidth, instead of three detectors. This solution does not afford flexibility, however, because the bandwidth to be measured can no longer be altered without a high outlay. In order to obtain a minimum flexibility, a person skilled in the art would give the detector areas dimensions approximately as large as those of the prisms and use generally known spectrally selective means arranged downstream of the prisms. Document D5 describes the same advantages as the present application with regard to these additional means (figure 1, element 8, and column 2, lines 16-23). A person skilled in the art would therefore consider the inclusion of this feature in the device described in D4 to be a routine design measure for solving the problem of interest.

Therefore, the subject matter of claim 1 cannot be

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regarded as inventive.

2-2. Dependent claims 2 to 12, 16 to 18, 22 and 23

Claim 2: known from D2 (identical masks: column 4, lines 2-4).

Claims 3, 4: For the purpose of selecting the wavelength or bandwidth to be measured, it is known to displace a mask (see D5, column 2, lines 21-23). Claim 4 is a trivial alternative.

Claims 5 to 8: Trivial since indispensable for moving a mask. Claims 6 to 8 represent traditional displacement units.

Claims 9 to 11: These materials are generally known for the production of prisms, see for example D3 (column 1, line 60 and column 5, lines 45-47).

Claim 12: Customary embodiments of masks (see D4, mask 7).

Claims 16 to 18: Known from D4 (paragraphs 21-22).

Claims 22, 23: Ultraviolet and infrared light are likewise dispersed by the prisms. It is obvious to a person skilled in the art to provide additional detector area if these spectral ranges have to be captured.

3-Objections owing to lack of clarity (PCT Article 6)

a) Claim 13 can only be understood as dependent on claim 12.

b) It would appear from the description on pages 3 (paragraph 3) and 6, 7 that the following features are essential to the definition of the invention:

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- (1) the prism unit is a microprism unit; and
- (2) one prism is provided in the microprism unit for at least one opening pair.

Since independent claims 1 and 19 do not contain these features, they do not meet the requirement of PCT Article 6 in conjunction with PCT Rule 6.3(b) that each independent claim must include all the technical features essential to the definition of the invention.